

and in the Rev. C. R. Digby's collection I detected, last month, a single specimen which he captured near Farnham, in West Surrey, on May 31st, 1895; it is, therefore, rather widely distributed, and will before long doubtless be met with elsewhere, but it seems strange that I have seen no other individuals in British collections.

The matter has been carefully worked out with the help of the Stainton, Zeller, and Frey collections, but my difficulties have been increased by the fact that in the two first-named the sets of some of these allied *Argyresthiæ* contain an unpalatable mixture of two or more distinct species, showing that much confusion exists about them on the continent, and rendering great caution necessary in order to avoid being led into error. In the Zeller series of *illuminatella* are three examples of *Atmoriella* bearing labels which, when explained by a reference to Zeller's correspondence, show that they were taken in June and July, 1880, at Schönberg, in the Ober Lausitz district, in the north-west of Prussian Silesia, and were received in February, 1881, from Herr Otto Torge; when sending them as "*illuminatella*," Torge made the following noticeable remark, "*Arg. illuminatella* flies amongst *Pinus larix* as well as *Pinus picea*." *Atmoriella* should follow *lævigatella* (which is also attached to, and has been bred from, *larch*) in the European, and might precede *arceuthina* in the British, List.

The Rectory, Corfe Castle :

January, 1896.

SOME REMARKS ON THE INSECTS BELONGING TO
THE GENUS *PALORUS*, MULS., WITH A DESCRIPTION OF ONE
NEW SPECIES.

BY G. C. CHAMPION, F.Z.S.

Several years ago I noticed that two species were confused in British collections under the name of *Palorus* (*Hypophlæus*) *depressus*, Fabr., and that probably neither of them really belonged to it; but as I could not determine them at the time, they were left for future study. The recent publication of Dr. Seidlitz's elaborate work on the *Tenebrionidæ* of Germany, &c. [Naturg. Ins. Deutschl., v (1893—5)], has again brought the subject to my mind, and I am now able to identify our insects, and to make several corrections in the synonymy. Dr. Seidlitz recognizes three European species, two of which, *P. depressus*, Fabr., and *P. Ratzeburgi*, Wissm., are known from Germany and other parts of Europe, and one, *P. bifoveolatus*, Baudi (*nec*

Duftschn.), from southern Europe and Morocco. He appears to have completely overlooked Wollaston's writings on the subject, hence one of the names adopted by him cannot stand. Moreover, the localities given by him for two of the species are rather misleading, as the insects in question are quite cosmopolitan, and carried everywhere by commerce—in grain, flour, ground-nuts, &c.—one of them being often found (like *Tribolium*, &c.) in bread. The following table, based upon a large number of specimens from many localities, shows the differences between the three species now recognized as European :—

Antennary orbits (or sides of the front) moderately prominent, not extending backwards so as to hide the anterior margin of the eyes as seen from above.

The antennary orbits separated from the epistoma (or clypeus) by a distinct furrow ; head (the epistoma excepted) and prothorax coarsely, closely punctate, the punctures on the prothorax becoming very coarse and dense towards the sides ; prothorax much broader than long ; elytra coarsely punctate-striate, with one or more of the inner interstices irregularly biseriate-punctate, and the others uniseriate-punctate.....*depressus*, Fabr. (1790) [= *unicolor*, Oliv. (1790)].

The antennary orbits not separated from the epistoma by a distinct furrow ; head and prothorax more finely and more sparsely punctate, the punctures on the prothorax becoming very little coarser towards the sides ; prothorax considerably broader than long in the male, still broader in the female* ; elytra more finely punctate-striate, the interstices uniseriate-punctate throughout, in some specimens transversely wrinkled ; size smaller...

Ratzeburgi, Wissm. (1848) [= *ambiguus*, Woll. (1857) ;
floricola, Mars.† (1876)].

Antennary orbits (or sides of the front) prominent and more raised, extending backwards so as to hide the anterior margin of the eyes as seen from above, and limited inwards by a deep oblique furrow extending backwards from the transverse frontal groove ; head and prothorax finely and moderately closely punctured, the punctures on the prothorax becoming coarser towards the sides ; prothorax much broader than long ; elytra finely punctate-striate, the punctures closely placed, the interstices uniseriate-punctate, the inner ones in some specimens irregularly biseriate-punctate ; body slightly flattened above...

subdepressus, Woll. (1864) [= *bifoveolatus* (Baudi),
(*nec* Duftschn.), (1876), Seidl.].

P. depressus, Fabr.—This species is generally distributed in Europe ; it is found under the bark of various trees, especially oaks. It has, perhaps, not yet acquired a taste for meal. I have examined numerous specimens from Chinon, France (*coll. F. Bates*), Pau

* Dr. Seidlitz gives the prothorax "as long as broad;" but Wissmann, in comparing his insect with *P. depressus*, makes no mention of this difference, merely stating that the prothorax is more distinctly narrowed towards the base.

† This insect was supposed by Marseul to have been found in a flower, instead of "in flour," hence the name !

(*Fauvel*), Gibraltar, Civita Vecchia, and Salonica (*J. J. Walker*), Morea (*Reitter*), &c. The British specimens hitherto referred to it belong to one or the other of the following species.

P. Ratzeburgi, Wissm.—This is the insect commonly found in granaries, bakehouses, &c., and often met with in bread or flour. Wissman found it under the bark of a dead beech at Münden, Hanover, and it has also been found by others under bark. It is the *P. depressus* of Stephens, all the specimens in his collection belonging to it. I possess examples from London, Scarborough (*Lawson*), Ripon (*E. A. Waterhouse*), &c., as well as from many European localities, Tunis, and Asia Minor. The uniseriate punctuation of the elytral interstices seems to be a constant character of this species. The *P. (Hypophlæus) depressus* and *P. floricola* of Marsenl, from Japan,* belong here. The original specimen of *P. ambiguus*, Woll., was found in the upland region of Madeira, whither, as Wollaston believed, it appears to have been carried (with *Sitophilus oryzae*) in provisions. I am indebted to Herr E. Reitter for the loan of two specimens of *P. Ratzeburgi*, determined by Dr. Seidlitz.

P. subdepressus, Woll.—Also found in granaries. Apparently less common than the preceding, and easily separable from it by the more dilated, posteriorly prolonged antennary orbits, which are limited inwards by a deep oblique groove, and the fine punctuation of the surface.† In many of the largest and broadest examples (♀), received with others from the same localities, there is an irregular double row of minute punctures on the two or three inner elytral interstices, instead of a single row on each, as in the type; they cannot be separated from *P. subdepressus*. I have seen specimens from London granaries; also from various localities in the south of Europe (Gibraltar, Turkey), Tangier, Syria (*Reitter*), Cape Verde Is., Mexico‡, Texas, Gilbert Is., &c. M. Fauvel, too, has sent me a number of specimens from Rouen, found in a shipment of ground-nuts (*Arachis*). Wollaston's original example from the Canary Is. was found under camel's dung.

The other described species of *Palorus* are:—

P. delicatulus, Reitter (1877), from E. India. The type of this species (or rather the remains of it, for the head and prothorax are broken off) is contained in M. René Oberthür's collection. "Smaller

* Ann. Soc. Ent. Fr., 1876, pp. 112, 115.

† These characters are accurately described by Wollaston.

‡ The specimens from northern Mexico referred by me (Biol. Centr.-Am., Col. iv, 1, p. 174) to *P. melinus* belong here.

than *P. melinus** (*depressus*), broader, parallel. Head and prothorax more finely punctured; the latter shorter and equally broad throughout, the hind angles more sharply rectangular, the anterior angles more prominent and encroaching on the eyes; elytra shorter, just as broad as the prothorax, almost equal in width throughout, somewhat lighter than the prothorax, more finely punctured in rows, the interstices with very scanty scattered punctures, here and there the punctures forming traces of rows" (*Reitter*). It is doubtful if this species will ever be identified, the form of the head not being mentioned in the description.

P. minor, C. O. Waterh. (1894), from Damma Island.—This insect is allied to *P. Ratzeburgi*, but it is much smaller, narrower, and more parallel, thus appearing more elongate, and more finely punctured; the elytral interstices are minutely uniseriate-punctate throughout; the eyes are rather large and coarsely granulated.

The following species, described as *Hypophlæi*, belong to *Palorus*:—

P. euphorbiæ, Woll. (1862), from the Canary Is.—This species differs from all the other members of the genus in its comparatively elongate antennæ; the prothorax is nearly as long as broad; the elytral interstices are uniseriate-punctate. It lives under the bark of dead *Euphorbias*.

P. ficicola, Woll. (1867), from the Cape Verdes.—This species resembles *P. depressus* and *P. Ratzeburgi* in the form of the head; but it is narrower, the antennæ are shorter, the eyes are larger, and the punctuation of the upper surface is much finer. In the sculpture of the head, prothorax, and elytra it is like *P. subdepressus*. The elytral interstices are uniseriate-punctate. Wollaston's specimens were found under the bark of a large native fig-tree.

P. exilis, Mars. (1876), from Japan.—A very small species, closely allied to *P. minor*, but a little less elongate and slightly broader, and with smaller eyes; the prothorax is slightly broader than long, subquadrate; the elytra are parallel, the interstices uniseriate-punctate; the punctuation is fine. In the form of the antennary orbits it agrees with *P. Ratzeburgi* and *P. minor*. There is a specimen from Java in the British Museum apparently belonging to this species.

The following species from Australia and Damma Island, doubtfully referred to *P. depressus* by myself† and Mr. C. O. Waterhouse,‡ is evidently distinct from any of the foregoing, and it is here described:

* The name *P. melinus*, Herbst, is adopted for this species in the Munich Catalogue; Herbst's figure, however, clearly indicates a true *Hypophlæus*.

† Trans. Ent. Soc. Lond., 1894, p. 370. ‡ Ann. and Mag. Nat. Hist. (6), xiv, p. 66 (1894).

PALORUS AUSTRINUS, *n. sp.*

Moderately elongate, narrow, subparallel, slightly depressed above, rufo-testaceous or rufo-ferruginous, shining. Head closely, finely punctate; the transverse frontal groove deep; the antennary orbits (or sides of the front) feebly reflexed, not prominent, oblique, forming almost a continuous outline with the outer portion of the eyes; the latter rather large, very coarsely granulated, their anterior portion visible from above; the antennæ short. Prothorax transversely quadrate, rounded at the sides in front, the anterior angles not prominent, the hind angles acutely rectangular; thickly, finely punctate, the punctures becoming a little coarser at the sides, the disc with a smooth narrow space along the middle. Elytra moderately long, parallel in their basal half; rather finely punctate-striate, the fifth stria (as usual) more deeply impressed at the base; the interstices minutely uniseriate-punctate, the first (or sutural) interspace more thickly punctate.

Length, $2\frac{1}{5}$ — $2\frac{2}{3}$ mm.

Hab.: N. W. AUSTRALIA, Roebuck Bay and Port Darwin; DAMMA ISLAND.

Found in some numbers by Mr. J. J. Walker in each locality; the insect occurred in Australia under bark and away from habitations. In the comparatively large, coarsely granulated eyes this species resembles *P. minor* (also from Damma Island), from which it differs in its much broader shape and larger size. The antennary orbits are much less prominent than in *P. depressus*, &c., and they do not extend backwards (as in *P. subdepressus*) so as to hide the anterior margin of the eye when the insect is viewed from above.

Dr. Seidlitz makes the following remarks respecting *Tenebrio bifoveolatus*, Duftschm. (1812), which is possibly a *Palorus*:—" *T. bifoveolatus*, Duftschm., is not to be referred to our species (*P. Ratzeburgi*) nor to that of Baudi; its occurrence in bread offers no difficulty, for our species also occurs in granaries and bread, but the circumstance that Duftschmid describes the closely allied *P. depressus* as a *Hypophlæus*, and would certainly have put our insect (*P. Ratzeburgi*) close to it."

Horsell, Woking :

December 20th, 1895.

CEUTHORRHYNCHIDIUS NIGROTERMINATUS, WOLL.

BY G. C. CHAMPION, F.Z.S.

Mr. C. W. Dale, as a reply to my note on *C. nigroterminatus*, Woll. (= *Crotchi*, Ch. Bris.) (Ent. Mo. Mag. xxxi, p. 194), has forwarded to me for examination a specimen of a *Ceuthorrhynchidius* from Newton Abbot, Devonshire, from Wollaston's British collection